



TIGER FY 2015 Discretionary Grant

TRANSFORMING DIXIE HIGHWAY

Louisville Metro Government, local government for
Louisville/Jefferson County, Kentucky

1.0 CHANGES FROM PRE-APPLICATION

Project Element	Pre-Application	Final Application
Project Scope	<p>The project combines three distinct elements for improving one of Louisville's most heavily traveled and dangerous corridors:</p> <ul style="list-style-type: none"> Louisville's first Bus Rapid Transit (BRT) system, which will be completed in phases and extend from the Gene Snyder Freeway to Broadway in Downtown – a distance of 12.6 miles. Intelligent Transportation System (ITS) upgrades, which will include upgraded traffic signal and communication equipment to support the BRT and overall mobility, and Complete Streets roadway improvements including bicycle lanes, pedestrian facilities, intersection safety improvements, lane reductions, and new roadside urban design elements 	<ul style="list-style-type: none"> BRT now extends further from Gene Snyder to 2nd & Main St. – a distance of 14.9 miles. Intelligent Transportation System (ITS) upgrades – no change from Pre-Application Complete Streets and Safety/Access Management Improvements; no longer includes bicycle lanes or lane reductions
TIGER Request	\$18,800,000	\$16,910,000
Total Project Cost	\$30,300,000	\$28,910,000
Total Federal Funding	\$18,800,000	\$16,910,000
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2.0 PROJECT DESCRIPTION

Dixie Highway is one of Louisville's most important transportation and development corridors. It provides a critical link for the residents and businesses in southwest Louisville and is vital to the regional economy:

- Providing access to jobs in downtown Louisville and the surrounding community including the U.S. Army base at nearby Fort Knox;
- Connecting residents to educational institutions and medical centers;
- Fostering redevelopment and job creation efforts;
- Carrying thousands of transit riders and over 60,000 vehicles per day
- Serving as a regional freight route

While it is one of the busiest and most important corridors in the region, it is frequently congested, has very high total and fatal crash rates, and passes through several low and moderate income neighborhoods. In the vicinity of the Watterson Expressway, Dixie carries over 60,000 vehicles per day. It also hosts the region's best performing transit route, Route 18, which serves over 4,800 daily riders in the corridor. This high transportation demand results in low speeds and long delays at critical locations throughout the corridor – affecting all users including transit riders.

Meanwhile, the Dixie corridor experiences more than double the number of total and injury-collisions when compared to similar roadways statewide. These crashes also include a high rate of fatalities. Between the years 2010-2014, Dixie Highway experienced thirty-four (34) traffic-related fatalities within the project limits. ***This results in a fatal crash rate that is over 30 times the rate of similar roadways.***

All of this activity occurs through several of the city's low and moderate income neighborhoods, which have historically born the brunt of the negative side-effects of this heavily used corridor without fully reaping its potential benefits. The quality of life of these communities is impacted by high emissions, noise, poor pedestrian and vehicular safety, and other factors.

These issues highlight the opportunities for improving Dixie Highway. For example, there are excellent opportunities for developing a much safer and efficient multimodal transportation system connecting residents to jobs, medical and social services, and educational opportunities both within the corridor and in other parts of the community. In addition, there is significant potential for economic growth along the corridor.

The Transforming Dixie Highway Project was designed to move beyond the incremental efforts made to date to address congestion, safety, and functionality. Instead, this project takes a more strategic and comprehensive approach to building a sustainable, safe, and well managed transportation link between the city center and its southwestern communities.

2.1 Project Summary

Given its strategic importance economically as a critical transportation network for the region, the Louisville Metro Council in 2011 appropriated funds to create the *Dixie Highway Corridor Master Plan*. The resulting community-driven plan, legislatively adopted by the Metro Council in 2013, developed a comprehensive vision to transform this vital artery and the surrounding neighborhoods and commercial clusters it supports.

The Transforming Dixie Highway Project was envisioned from this *Dixie Highway Corridor Master Plan*, taking several of the recommended transformational improvements and building consensus with the project partners on the current project components. It includes three primary elements:

- Intelligent Transportation System (ITS) / Signal System and Technology Upgrades;
- Complete Streets and Safety/Access Management Improvements; and
- Bus Rapid Transit (BRT).

Specifically, the ITS and signal system improvements will incorporate new technology connecting Dixie Highway to the city's existing upgraded traffic operations center for active traffic management operations. It will also include transit signal priority equipment and signal phasing improvements to speed BRT travel.

The Complete Streets and Safety/Access Management improvements will include constructing pedestrian pathways and improved multi-modal (especially pedestrian and transit) connectivity in critical areas to help achieve the city and community's complete streets, livability, and development objectives. While bicycle facilities are often provided in complete streets corridors, they are currently being evaluated for separate facilities that run generally parallel to Dixie. The safety and access management aspects of the project include raised medians and driveway consolidations, turn lanes, signage and striping upgrades, and other safety enhancements.

The BRT will include upgraded transit facilities along the entire length of the corridor

with approximately 36 new, highly visible and easily accessible BRT stations, newly branded vehicles unique to the Dixie Highway corridor, appropriately located queue-jump lanes and bus turnouts. These elements will facilitate safe and efficient travel and will help the community achieve its stated community character and development goals.

2.1.1 The Corridor

The Dixie Highway corridor is approximately 14.9 miles long and home to nearly 50,000 residents, many of whom are low to moderate income households, transit dependent, and have the lowest life expectancy rates in all of Louisville. Within the corridor limits, Dixie Highway connects residents and commuters to over 2,400 employers providing nearly 24,500 jobs, in addition to the downtown employment district (the largest employment cluster in the region) to the north and Fort Knox to the south. It also connects residents to essential community services within the project limits at adjacent schools and colleges, hospitals, retail stores, government institutions, and transit services. The city's emergency response services also depend on the corridor, as do local and regional freight carriers accessing nearby industrial areas (Riverport industrial area, Park Hill industrial corridor, UPS WorldPort, Ford Motor Company Louisville Assembly Plant and Rubbertown Industrial Corridor).

Dixie Highway, as an urban principal arterial, varies from a two-lane urban facility near downtown Louisville in the north, to a four-lane highway with rural typical section elements and then a more suburban six-lane roadway to the south. As noted above, in the middle segments, near its intersection with the Watterson Expressway (I-264) it carries over 60,000 vehicles per day. Dixie Highway also serves the region's best performing transit route, Route 18, serving over 4,800 passengers per day in the corridor. Many sections of the corridor are particularly unfriendly to pedestrians, including those seeking to access transit - with relatively few sidewalks, many intersections which lack street crossings, long blocks, and large volumes of traffic traveling at high speeds through the corridor.

2.1.2 The Challenge

As noted above, the Dixie Highway corridor is a heavily traveled arterial route that intersects with both I-264 and the Gene Snyder Freeway (KY 841) and the resulting traffic congestion manifests itself through significant delays and numerous crashes.

One of Louisville Metro's biggest traffic management challenges is the lack of an

adequate communications infrastructure and appropriate signal control hardware to manage congestion and delays on Dixie Highway. While improvements have been completed or are underway in other parts of the Metro area, Dixie Highway has not been upgraded.

In 2010, the Louisville Metro Advanced Traffic Management System (ATMS) Upgrade and Expansion program began to replace the legacy traffic signal system and expand to a modern system with central control capabilities on a countywide level. The project also included the retiming of approximately 130 traffic signals and the development of a plan to deploy and construct a communications network that will eventually include an additional 350 traffic signals into the Louisville Metro ATMS.

These retiming efforts across the county magnified the importance of constructing and deploying the necessary infrastructure to maintain real time communications to manage safer and connected corridors. Currently, the communication network between Metro's ATMS and the Dixie Highway corridor does not extend south of Algonquin Parkway (approximately mid-way down the corridor). In addition, traveler information mechanisms such as the provision for informing motorists about traffic conditions on arterial roadways and at intersections, through the use of Dynamic Message Signs (DMSs) is not currently available in the corridor.

Another critical issue that needs to be addressed is the high crash rate on this corridor. This part of Dixie Highway experiences more than double the number of injury-collisions compared to other roads in Jefferson County, and in most years, Dixie Highway has triple the number of property damage collisions compared to similar roadways in the region. Between the years 2010-2014, Dixie Highway experienced thirty-four (34) traffic-related fatalities within the project limits, which is higher than the *combined* total on similar arterials in Louisville Metro, such as Hurstbourne Lane, Shelbyville Road, Taylorsville Road and Fern Valley Road during the same period. During just the years from 2011 to 2013, there were nine (9) pedestrian fatalities on Dixie Highway alone.

The auto-oriented land use pattern and extremely poor access management contributes to a lack of economic resilience of land parcels in the corridor, as well as safety concerns for pedestrians, transit users, bicyclists, and motorists. The land uses along the corridor are primarily commercial, with a mixture of smaller local businesses, chain restaurants and large national retail stores as well as government facilities (library branch, satellite government center, and governmental services) schools, churches,

medical facilities and multi-family residential. Frequent driveway openings, sidewalk gaps and a lack of Americans with Disabilities Act (ADA) compliant pedestrian crossings lead to the high accident rates, travel delay, and general safety concerns for all users of the corridor.

Despite this poor pedestrian environment, the corridor still generates significant transit ridership. Based on the adopted Dixie Highway Corridor Master Plan and a corridor assessment prepared by Transit Authority of River City (TARC), Louisville's local transit agency, a number of high priority intersections have been identified where transit facilities and passenger amenities improvements are needed to facilitate transit service efficiency and regional mobility, increase travel choice and independence, and develop a safe and accessible transportation network for all users.

2.1.3 The Solution - Project Description

A comprehensive solution is required to transform Dixie Highway from a history of inadequacy into a high functioning multi-modal urban corridor for the future of Louisville. The three project elements are ITS /Technology Upgrades; Complete Streets and Safety/Access Management; and Bus Rapid Transit (BRT).

- 1) ITS / Signal System and Technology Upgrades: New technology is required to provide functionality, traffic monitoring and command capabilities such as dynamic signal control and video surveillance. This Intelligent Transportation System (ITS) communications infrastructure upgrade is proposed along Dixie Highway from the Gene Snyder Freeway to Broadway in downtown Louisville.

The system will include a reliable, robust hard wired fiber optic trunk line that will not only serve as a communications link to each of the traffic signals, but will provide future communications for intersecting streets, cameras, dynamic message signs and other future ITS systems and equipment.

The ATMS connection will allow Louisville Metro to improve safety and implement the proposed BRT without compromising system efficiency. Traffic signal priority (TSP) for transit operations will be provided at appropriate intersections along the corridor, as well as real-time information for transit customers at each enhanced station location.

The project initiative includes the upgrade, replacement and rehabilitation of traffic and pedestrian signal displays, controller equipment and associated

hardware at approximately half of the traffic signals along the corridor. It is envisioned that all new pedestrian signals will be upgraded to count-down type displays thus bringing all of the traffic signals into compliance with current federally mandated guidelines identified in the Manual on Uniform Traffic Control Device (MUTCD).

- 2) Complete Streets and Safety/Access Management Improvements: In response to the recommendations identified in the *Dixie Highway Corridor Master Plan*, the Commonwealth of Kentucky has programed \$11.5 million to develop specific infrastructure improvements along the corridor. These improvements are currently funded for two sections in the center of the corridor: Dixie Highway from Crums Lane to Rockford Lane (1.5 miles) and from Rockford Lane to Greenwood Road (2.2 miles), with the initial section currently under design.

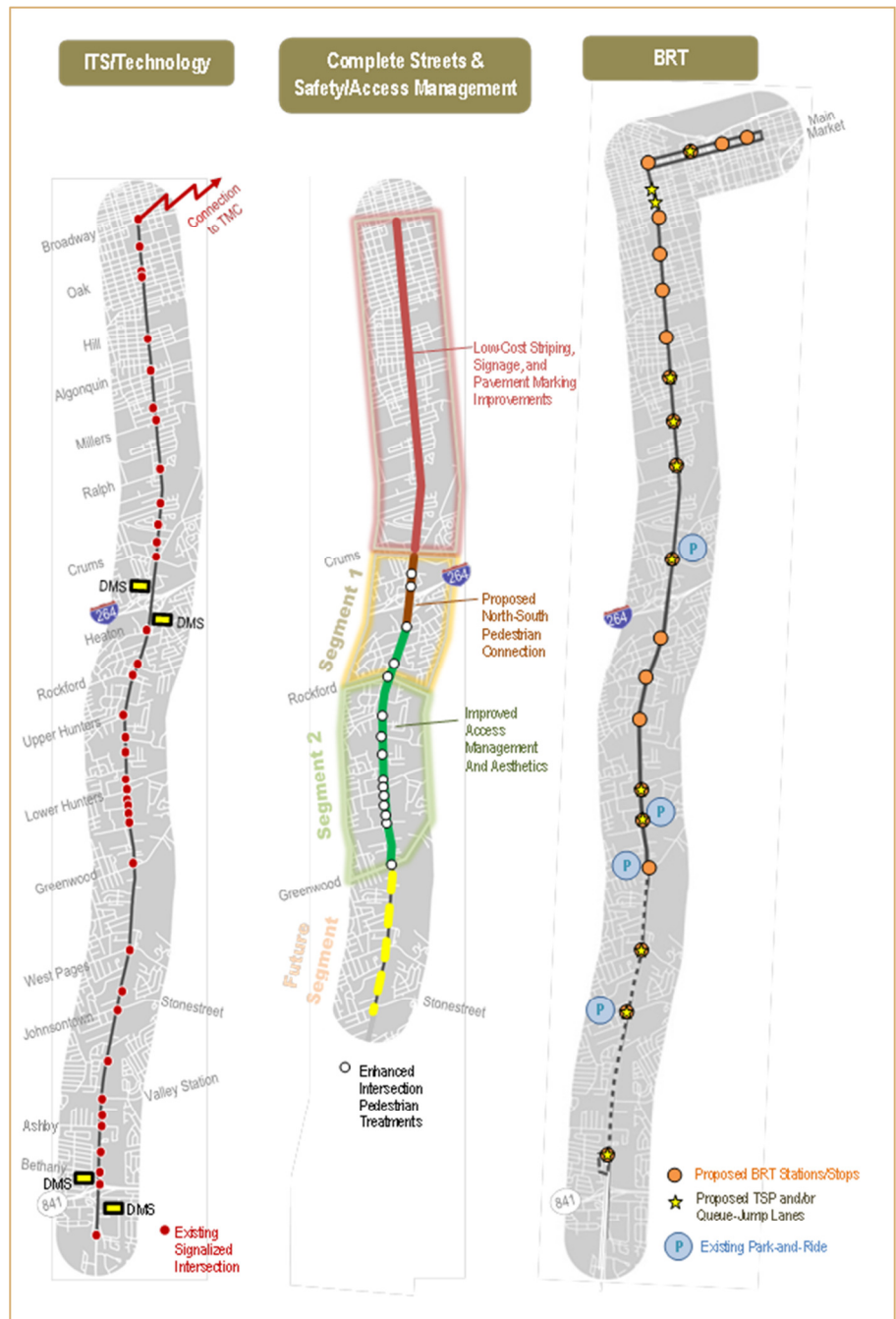
The proposed projects will include reconstruction of the entire roadway section to improve safety and provide increased control of access by consolidating entrances (where possible) and converting the existing two-way left-turn lane (TWLTL) into one-way left turn lanes with a raised, landscaped median. Additional improvements would include new ADA-compliant sidewalks, landscaping, enhanced lighting and updated roadway amenities.

In addition, the State's current 6-year plan has identified \$4.8 million for construction of a third section of the corridor; from Greenwood Road to Stonestreet Road (1.8 miles). Although these funds are not included in the Kentucky Indiana Planning and Development Agency (KIPDA)'s Transportation Improvement Program (TIP), this segment is the next one planned for roadway improvements and funding will be sought once the improvements in the first two sections are underway.

It is anticipated that additional low cost safety and operational improvements will also be provided as part of the project in the high crash rate section from Crums Lane north to Broadway. These improvements are expected to include restriping to provide left turn lanes, new crosswalk markings, as well as other signage and striping upgrades. These enhancements will benefit the BRT operations as well as pedestrian and auto safety.

- 3) **Bus Rapid Transit (BRT):** The proposed BRT service will begin in downtown Louisville (near the intersection of 2nd Street/Main Street) and generally follow the alignment of TARC's existing Route 18 along Main Street/Market Street to 18th Street; then on 18th and Dixie Highway to the Gene Snyder Freeway. The BRT will include approximately 36 new, highly visible and easily accessible BRT stations and use newly branded vehicles that are unique to the Dixie Highway BRT. As noted previously, traffic signal priority (TSP) and queue-jump lanes with bus turnouts (at approximately half of the stop locations) will be provided at intersections along the corridor, as well as real-time information for transit customers at each enhanced station location. It is anticipated that the existing Route 18 would continue to provide local service with more frequent stops along the corridor, supplementing the higher speed BRT.

Figure 1: ITS, Complete Streets & Safety/Access Management and BRT Alignments



DIXIE HIGHWAY CHALLENGES	TRANSFORMING DIXIE HIGHWAY SOLUTIONS
Traffic Congestion / Travel Delays <ul style="list-style-type: none"> ▪ System not connected to City's traffic management center ▪ Inconsistent typical section/lanes along corridor ▪ Outdated signal hardware (incompatible with TSP) ▪ No detection for multi-modal users 	ITS / Technology <ul style="list-style-type: none"> ▪ Connect signal controls/communications with City's traffic management center ▪ Manage corridor for multi-modal demands (including transit operations and TSP) ▪ Upgrade signalized intersections and provide pedestrian signals
Corridor Traffic Injuries / Fatalities <ul style="list-style-type: none"> ▪ Outdated signal system and high traffic volumes result in increased congestion and increased collisions ▪ Limited sidewalk areas ▪ Limited pedestrian crossing and pedestrian signals ▪ Excessive speed in areas where road is wider and from inconsistent typical section 	Complete Streets <ul style="list-style-type: none"> ▪ Design for multi-modal users (including pedestrians and transit users) ▪ Control of access plan for driveways and medians to prevent conflicts and collisions ▪ Build sidewalks where sidewalks are missing ▪ Improved amenities such as lighting, signing, and landscaping
Transit Service <ul style="list-style-type: none"> ▪ Undesirable travel times due to slow arterial speeds ▪ Corridor is not transit/pedestrian friendly due to lack of sidewalks ▪ Lack of accessible stops and appropriate access to stops as per ADA 	Introduction of Bus Rapid Transit <ul style="list-style-type: none"> ▪ Increased frequency/headways to accommodate mobility demands ▪ Newly branded vehicles unique to Dixie Highway ▪ Approximately 36 highly visible and easily accessible transit station stops ▪ Improved accessible to transit by constructing ADA sidewalks pads at new stop locations

The Transforming Dixie Highway project includes a unique set of design interventions that will create a safer and more efficient environment for pedestrians and transit users, as well as the private vehicles and freight movements that share this corridor. This transformation into a functioning, multi-modal corridor will serve the needs of all users including pedestrians, drivers, freight operators, emergency responders, and transit users, and especially those with ADA accessibility needs, seniors, and children.

2.2 Ladders of Opportunity

The Transforming Dixie Highway project is a Ladder of Opportunity for Louisville's low, moderate and minority income neighborhoods in the southwestern part of the city by providing improved, efficient, and safe access to clusters of employment, social services, education, and medical care along the corridor and its northern terminus in downtown. It would significantly improve pedestrian and automobile safety and quality of life along the corridor and provide a more attractive location for new commercial development and other opportunities.

Improved access to employment, social services, education, and medical care.

The three project elements (ITS/Signal System Technology Upgrades, Complete Streets and Safety/Access Management, and BRT) combine to significantly improve resident's mobility and access to employment, social services, education, and medical care throughout the corridor. The BRT service will end in downtown Louisville, where jobs, services and medical care are clustered. Additional, smaller employment clusters are located at key intersections along Dixie Highway, and to the east and west of the corridor along major intersecting roadways (such as the Riverport Industrial Park). Numerous hospitals and clinics are located within a half mile of the corridor, with several in downtown (University of Louisville Sports Medicine, James Graham Brown Cancer Center, and Norton Hospital Center and Kosair Children's Hospital, Kentucky's only free-standing full-service children's hospital). The YMCA is to break ground later in 2015 on the site of an old cigarette manufacturing facility on Broadway at Dixie. EPA is partnering with the City and the YMCA to remediate the environmental issues on this brownfield redevelopment site. The YMCA is also partnering with the University of Louisville to run some of the facilities, possibly including health-related clinics, a swimming pool, classrooms, a fitness center, a group exercise room, and a child-care center. Across the street from the forthcoming YMCA facility, Walmart has announced a new store to open at the corner of Dixie and Broadway. In downtown, the BRT will provide convenient connections to Jefferson Community and Technical College and other educational institutions. Between Hill Street and Crums Lane, the BRT will provide connections for those wishing to reach the University of Louisville.

Improved safety. The ITS improvements and roadway/signage/stripping upgrades will significantly improve safety for pedestrians and automobiles. This is particularly important in the low-income neighborhoods in the north where the crash rate is the highest in the corridor. The considerable safety benefits of the project are expected to positively impact the quality of life of nearby residents.

Encourage Commercial Activity and Economic Growth. The street improvements planned for the central section of the corridor near the Watterson Expressway will significantly improve pedestrian safety, aesthetics, and access to businesses along Dixie Highway. This will support additional customer traffic, fostering increased economic activity. The BRT will also promote economic activity in the vicinity of the major stations.

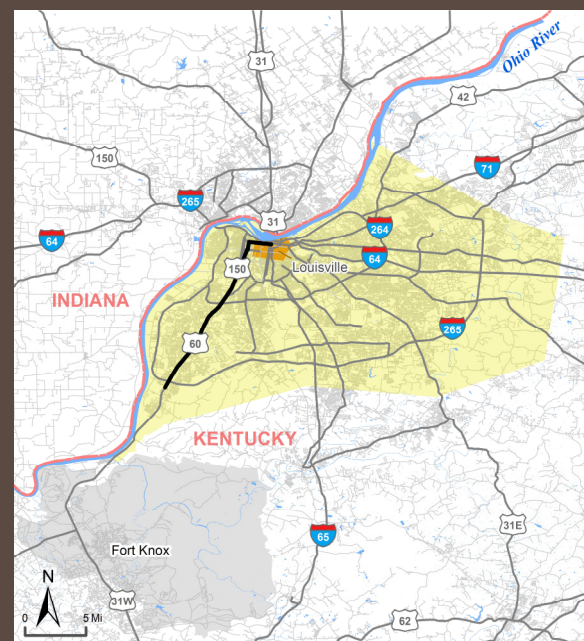
3.0 PROJECT LOCATION

The Transforming Dixie Highway Project is centered along Dixie Highway in southwestern Jefferson County and extends all the way from downtown Louisville to the Gene Snyder Freeway (KY 841). The highway extends from Louisville, Kentucky to Nashville, Tennessee. The section from downtown Louisville to Fort Knox connects with US 60. Dixie Highway has a long history as a regional corridor and was part of the National Auto Trail program, the predecessor to the United States Numbered Highways system.

The Transforming Dixie Highway Project covers approximately 14.9 miles of Dixie Highway starting from downtown Louisville southwards, providing access for local residents along the corridor and those in the city's southwestern suburbs to jobs, services, retail and educational opportunities clustered at the northern end of the corridor and several industrial parks to the east and west.

Louisville is the largest city in Kentucky. This portion of Dixie Highway, as noted above, is home to nearly 50,000 residents, many of whom are low to moderate income households, transit dependent, and have the lowest life expectancy rates of all of Louisville. Median household income along the corridor was \$30,952 in 2012, compared

FIGURE 2: Map of Dixie Highway (US-31W /US-60), Louisville, KY



to \$50,157 for all U.S. households. Nearly 9% of the corridor's residents use public transportation as their primary means of travel to work compared to 3.4% for the rest of Louisville.

The BRT is planned to run along this corridor north and into downtown Louisville. Analysis of data for residents within a quarter mile of the BRT reveals a significant portion of minorities, especially in the northern section (i.e. more than 17,088 minority residents out of nearly 30,000 total residents along the corridor). Accordingly, a significant portion of transit users along this corridor are also minority: TARC's Route 18, which runs along this portion of Dixie Highway, has the second highest low-income ridership and second highest minority ridership among TARC's 41 bus routes.

FIGURE 3: Concentration of Jobs and Residents Along Dixie Corridor



4.0 PROJECT PARTIES

The Transforming Dixie Highway project builds on a history of coordinated planning and commitments for improving this critical corridor. As one of Louisville's principal corridors connecting large clusters of residents, employers, and services, Dixie Highway garners significant civic, business, and governmental interest and support.

The lead agency for the Transforming Dixie Highway project is the **Louisville/Jefferson County Metro Government**. Metro will be partnering with the **Kentucky Transportation Cabinet (KYTC)**, **Transit Authority of River City (TARC)**, and **Metropolitan Sewer District (MSD)**. Each is described below.

Louisville Metro Government

Louisville/Jefferson County Metro Government will be the lead party in executing the Transforming Dixie Highway project and would be the recipient of the TIGER Discretionary Grant. Louisville Metro is a consolidated local government organized



under Kentucky Revised Statutes Chapter 67C. As the principal local government for the county, Louisville Metro Government provides government services for residents and employers within the urban service areas and non-incorporated areas of Louisville Metro, which is the largest metropolitan area in Kentucky.

Multiple departments of Louisville Metro Government have been coordinating the improvement plan for Dixie Highway and will continue working together through project implementation. Louisville Metro Public Works has extensive experience in managing construction projects funded from federal and state transportation funds. They have worked extensively in partnership with the Kentucky Transportation Cabinet (KYTC) on capital projects as well as continuing operations and maintenance programs on major roads, such as Dixie Highway. Develop Louisville, part of Louisville Metro Government's Louisville Forward initiative, has extensive experience coordinating land use planning and transportation projects, building consensus and fostering collaboration between public and private interests. Develop Louisville has managed multiple federal and state funded grants, including the 2012 Brownfields Area-Wide Planning Program grant awarded by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation's 2012 Transportation, Community and System Preservation Grant Program. Develop Louisville was also the project manager for the Dixie Highway Corridor Master Plan that established the vision for the project improvements.

Kentucky Transportation Cabinet (KYTC)

KYTC is an executive branch agency of the Commonwealth of Kentucky responsible for overseeing the development and maintenance of a safe, efficient multi-modal transportation system throughout the state. Their mission is "to provide a safe, efficient, environmentally sound and fiscally responsible transportation system that delivers economic opportunity and enhances the quality of life in Kentucky." The Cabinet's District 5 office oversees all aspects of road building and maintenance in 8 Kentucky counties in the Louisville area. As part of the U.S. Highway system (US 31), Dixie Highway is under the jurisdiction of the KYTC. If awarded TIGER funds, KYTC and Louisville Metro Public Works are committed to entering into a memorandum of agreement for the management and oversight of the design and construction phases of the project.



Gov. Steven Beshear has also stated his personal commitment to the Transforming Dixie Highway project (see letter of support).

Transit Authority of River City (TARC)

The Transit Authority of River City (TARC) has been operating for over 40 years as the public transportation provider for the Greater Louisville metropolitan region. TARC manages bus routes in Jefferson, Oldham and Bullitt Counties in Kentucky, as well as Clark and Floyd Counties in Indiana. TARC's mission is to explore and implement transportation opportunities that enhance the social, economic, and environmental well-being of the Greater Louisville community. TARC provides nearly 15 million trips a year on 41 routes. The vast majority of passengers – 70 percent – are on work or school trips. The TARC fleet is comprised of 230 buses (including 32 hybrid-electric buses, 10 all-electric buses) and 99 partransit vehicles. TARC recently began operating 10 fast-charging, all-electric buses, branded as “ZeroBus” in 2015. TARC has 655 employees.



Metropolitan Sewer District (MSD)

The Louisville & Jefferson County Metropolitan Sewer District (MSD) is a partner for the stormwater management design with the repurposing of roadway typical sections, including greenscape treatments. MSD has complete control, possession, and supervision of the sewer and drainage systems within the Louisville Metro area (all of Jefferson County, KY). MSD is committed to partnering with Louisville Metro to incorporate green practices into the project for segments that are located within the MSD combined sewer system (generally north of I-264).



5.0 GRANT FUNDS AND SOURCES AND USES OF PROJECT FUNDS

On behalf of the partners of the Transforming Dixie Highway project, Louisville Metro Government requests **\$16.9 million in TIGER 2015** funding to complete the elements described in the Project Description. These funds will leverage significant funds committed by the Kentucky State Legislature through the Kentucky State Road Fund and funds allocated by Louisville Metro Government totaling \$12 million in local and state matching funds committed for these projects. The total cost for entire project is

\$28.9 million, of which 58.5 percent would be TIGER-funded, with the remaining 41.5 percent in local matching funds (Table 1).

Following the successful completion of the *Dixie Highway Corridor Master Plan*, the Commonwealth of Kentucky programmed \$11.5 million to design and construct infrastructure improvements including sidewalks, raised medians, dedicated turning lanes, and other improvements along the facility specifically for the segments from Crums Lane to Rockford Lane and from Rockford Lane to Greenwood Road, as shown in Table 2. In addition, Louisville Metro has committed \$500,000 to the project, \$200,000 of which is specifically for the ITS improvements while the remainder can be dispersed to project elements as needed (see Table 2).

The ITS improvements along the corridor are estimated to cost \$5.2 million, which includes preliminary engineering, utilities and contingency. Louisville Metro has \$200,000 committed for this element and requests TIGER funds to cover the balance.

The Complete Streets and Safety/Access Management Improvements along two main segments of the corridor are estimated to cost \$11.5 million -- \$4.35 million for the length from Crums Lane to Rockford Lane and \$7.15 million from Rockford Lane to

TABLE 2: Detailed Budget

Item	No.	Units	Unit Cost	Cost		Funding Source
Bus Rapid Transit						
Enhanced Stops	36	stations	\$100,000	\$4,680,000	*	TIGER request, State/Local
Bus Only Infrastructure (lanes, etc.)	20	stations	\$125,000	\$3,250,000	*	
Upgraded Buses	8	each	\$500,000	\$4,000,000		
Subtotal				\$11,930,000		
Complete Streets and Safety/Access Management						
Crums to Rockford (5 lanes existing)	1.5	miles	\$2,900,000	\$4,350,000		State/Local
Rockford to Greenwood (7 lanes existing)	2.2	miles	\$3,250,000	\$7,150,000		
Subtotal				\$11,500,000		
ITS / Signal System and Technology Upgrades						
Corridor & Intersection Upgrades	1	LS	\$4,000,000	\$5,200,000	*	TIGER request State/Local
Subtotal				\$5,200,000		
Program Management						
				\$280,000	\$280,000	State/Local
Subtotal				\$280,000		
Total Order of Magnitude Cost				\$28,910,000		

*Includes PE, Utilities and Contingency - estimated to be 30%

Greenwood Road (both estimates include contingencies). As noted above, Commonwealth of Kentucky has committed the necessary funds for those segments.

The proposed BRT is estimated to cost \$11.9 million, which includes costs for 36 enhanced stops, eight buses, and 20 bus-only elements along the corridor. Louisville Metro has approximately \$120,000 in general funds for the BRT (the \$100,000 in FY 2016 funds and \$200,000 in FY 2017 funds less an estimated \$280,000 for program management). TIGER funds are requested for the balance of the BRT costs.

Projects of the scope of the Transforming Dixie Highway project usually require dedicated program management resources. Therefore, Louisville Metro has reserved approximately \$280,000 of its committed funds for a separate program management cost item.

Since TIGER is significantly oversubscribed, Louisville Metro has prepared an alternative implementation for the BRT, with fewer stops. While this reduces costs for the BRT from \$11.9 million to \$10.1 million (see Table 3), it will also reduce ridership. Under this alternative, the TIGER request would be **\$15.1 million** (see Table 4)

TABLE 3: Alternative Implementation – Fewer Bus Rapid Transit Stops

Item	No.	Units	Unit Cost	Cost	Funding Source
Bus Rapid Transit					
Enhanced Stops	28	stations	\$100,000	\$3,640,000 *	TIGER request
Bus Only Infrastructure (lanes, etc.)	15	stations	\$125,000	\$2,437,500 *	TIGER request
Upgraded Buses	8	each	\$500,000	\$4,000,000	TIGER request
Subtotal				\$10,077,500	
Complete Streets and Safety/Access Management					
Crums to Rockford (5 lanes existing)	1.5	miles	\$2,900,000	\$4,350,000	State/Local
Rockford to Greenwood (7 lanes existing)	2.2	miles	\$3,250,000	\$7,150,000	State/Local
Subtotal				\$11,500,000	
ITS / Signal System and Technology Upgrades					
Corridor & Intersection Upgrades	1	LS	\$4,000,000	\$5,200,000 *	TIGER request
Subtotal				\$5,200,000	
Program Management					
			\$300,000	\$280,000	State/Local
Subtotal				\$280,000	
Total Order of Magnitude Cost				\$27,057,500	

**Includes PE, Utilities and Contingency - estimated to be 30%*

TABLE 4: Committed Funding Sources under Alternative Implementation

Funding Partner	Description	Funding Amount	Funding Percent
Commonwealth of Kentucky	State Road Funds Match	\$11,500,000	42.5%
Louisville Metro Government	FY 2016 Metro funds, in place	\$100,000	1.8%
	FY 2016 Metro funds, <i>(for ITS)</i>	\$200,000	
	FY 2017 Metro funds, committed	\$200,000	
TIGER Grant	Requested	\$15,057,500	55.7%
TOTAL		\$27,057,500	100%

6.0 SELECTION CRITERIA

The anticipated outcomes included in the following sections reflect a set of metrics and conditions that will be used to justify the importance of the physical transformation of Dixie Highway. The outcomes include improved safety conditions, traffic operations, and economic conditions for all corridor users

6.1 Primary Selection Criteria

6.1.1 State of Good Repair

Transforming Dixie Highway provides long-term solutions to the congestion management, pedestrian and vehicular safety associated with existing traffic volumes and land use, and transit service efficiency.

The project is consistent with the joint partner's programs / commitments to maintain the existing transportation system in a state of good repair and minimize unplanned capital improvement projects. TARC is an FTA recipient and accustomed to the requirements for their system to maintain a State of Good Repair to deliver safe and reliable transit service, including the addition of the proposed BRT improvements along the corridor. One of the primary goals of the proposed project is to enhance safety and mobility for pedestrians and motorists along the Dixie Highway corridor by providing a safe,

convenient, functional, aesthetically pleasing, and environmentally responsible transportation system for all users along the corridor.

Traffic signal infrastructure, displays and the associated conduits and wiring deteriorate with age and must be systematically replaced and revitalized because of the impact of traffic signal operations on the safety and mobility of the public. Included in this project is the replacement and rehabilitation of other direct signal control equipment required for the future State of Good Repair of these investments (i.e. underground conduit networks connection, signal controllers, cabinets, pedestrian crossing actuation and signal equipment). The new ITS/Technology communications infrastructure will be a reliable, robust hard wired fiber optic trunk-line connecting the traffic management center to each of the traffic signals along the project corridor. After installation, Louisville Metro will be able to intelligently manage communications for intersecting streets, cameras, dynamic message signs, and there will be an open architecture ITS system plan to allow for future enhancements. These types of technology improvements have long life cycles and low maintenance costs and offer the reliability necessary to accommodate real time technologies and systems management.

These enhancements will provide for an improved public space that offers more efficient operations and promotes the safety and mobility of the community. With the addition of street lighting, street trees, and enhanced transit stops (including the upgrade of existing sidewalks to current ADA standards), this project will improve attractiveness, connectivity, safety, accessibility and improve livability along the corridor for all users, regardless of capabilities.

The local maintenance agencies for the ITS/Technology, Complete Streets and Safety/Access Management, and BRT service in the corridor will ensure that the corridor is maintained in a state of good repair following construction.

6.1.2 Economic Competitiveness

The project will increase the economic competitiveness of southwest Louisville by creating greater accessibility to jobs and services along the corridor, increasing safety for the corridor's users and providing aesthetic improvements to the public right-of-way to encourage private investment.

Investments provided by Transforming Dixie Highway will provide an efficient multi-modal corridor giving commuters, residents and businesses improved access to mobility

while making the corridor a better place to live and conduct business. Nearly the entire length of the highway is populated by large and small retail and commercial businesses, which in aggregate employ over 24,000 people. As noted in the *Corridor Master Plan*, “although recent redevelopment of parcels is evident throughout the corridor, many local businesses occupy older buildings on smaller parcels and lack common standards for building type, lot design and access.” The project improvements have stakeholder consensus to target the complex challenges in the area and transform the corridor for the future economic competitiveness of the businesses.

Over 43,000 residents live within a half-mile of the corridor, with density decreasing and household income increasing traveling south along the corridor. Around 56% of the households along the corridor have either one or no car, far below the region’s average. The success of TARC’s Route 18 (local all day service) and Express Route 50 (peak period only) provide essential linkages to jobs for communities along the corridor, and the improved BRT route will enhance the reliability and access to employment opportunities, such as the new Walmart Newbridge Crossing center. In the northern section of the corridor, where Broadway intersects with Dixie Highway, Louisville Metro has recently executed a development agreement with Walmart to build a store that will also serve as a training facility designed to increase employment opportunities for residents of the California neighborhood and surrounding neighborhoods. The northern segment of Dixie Highway bisects the California neighborhood, historically one of Louisville’s poorest neighborhoods and, more recently, a neighborhood deeply impacted by the epidemic of home foreclosures and economic disinvestment precipitated by the recession that began in 2007. At this location, the Walmart will be accessible through public transportation to prospective employees and customers from the length of the Dixie Highway project area. This will increase both the marketability and long-term viability of the Newbridge Crossing Center and, correspondingly, the accessibility and effectiveness of workforce development for individuals residing along the length of Dixie Highway.

6.1.3 Quality of Life

The Transforming Dixie Highway project increases transportation choices and access to transportation services along the corridor by both improving the connectivity to transit stops and the creation of transit stations, thereby making transit a viable option for more workers and residents along the corridor.

Louisville historically developed along radial roads that connected cities and supported commerce between them. Dixie Highway's 100 year history started as a southward connection to the small cities and towns along the Ohio River. Neighborhoods and commerce grew up along the corridor in an organic fashion – compactly to the north in the historic sections of Louisville and divergent in the suburbs and small cities to the south. Over time these small cities and suburbs became neighborhoods and now support nearly 50,000 residents, most in affordable, middle-income neighborhoods. Transforming Dixie Highway will support existing communities with public improvements aimed at turning a challenged area into an accessible commercial, multi-modal asset, that provides access to employment centers, educational opportunities, retail and governmental services, and expanded business access to markets.

Route 18, which traverses Dixie Highway, today has the highest transit ridership in the TARC system. Riders must face daily struggles to access transit stops, the businesses, educational institutions, and services accommodated by transit. These hurdles make transit a difficult choice, often forcing populations that cannot afford it to make the costlier choice of driving alone. Together these illustrate how high the need for public transportation is along the corridor. Transforming Dixie Highway supports Metro Louisville's efforts to create mixed-use, walkable town centers at four broad locations (see *Dixie Highway Corridor Master Plan*). The concept will follow Metro's Form Based Land Development Code and is aimed at creating redevelopment opportunities that are served by high frequency transit.

With the Federal investment and the growth of Fort Knox into the U.S. Army's Human Resources training center, the corridor's role in supporting military and civilian commuters and shoppers is growing. The Metro area's ride sharing program along the corridor is at an all-time high with 35 registered vanpools, benefiting the Fort Knox workforce choosing Louisville as a home base. The project will support the previous and ongoing work of Develop Louisville and the University of Louisville's Center for Environmental and Policy Management's work on the 18th Street Corridor. This work, supported through the Environmental Protection Agency's Brownfield Assessment Grants, is assessing redevelopment potential of the brownfield properties at the northern end of the Transforming Dixie Highway project area.

6.1.4 Environmental Sustainability

Transforming Dixie Highway improves air quality, reduces fuel consumption and oil dependence, decreases storm water runoff, increases the market competitiveness of adjacent brownfields on the northern end, and sets the stage for Transit Oriented Development projects along the southern sections.

Today the Dixie Corridor is plagued with congestion. The existing traffic signals cannot communicate with the Louisville Metro central Advanced Traffic Management System (ATMS). In this corridor, there are few traffic detection cameras along the street, making congestion management and incident management nearly impossible. The result is poor air quality and high fuel consumption stemming from travel delays at congested intersections. The project's approach to environmental sustainability is multi-faceted: improving air quality, reducing fuel consumption and oil dependence, decreasing storm water runoff, increasing the market competitiveness of adjacent brownfield redevelopment opportunities on the northern end, and setting the stage for Transit Oriented Development projects along the southern sections. Integrated solutions in the project will also improve operations.

The ITS, in combination with access management and transit facility enhancements will change the operational efficiency of the facility. TARC will continue to build on its reputation as a proven leader by integrating zero emissions electric, hybrids, clean diesel alternative fuel vehicles into their fleet, and will provide the Dixie Highway BRT project with alternative fuel vehicles.

Sustainable redevelopment opportunities within the residential community and adjacent commercial/retail properties are intimately aligned with the *Master Plan's* vision of infrastructure improvements. The mobility, safety, and functionality desired from Transforming Dixie Highway are part of the framework to reinvigorate the corridor as a vibrant, affordable community, in addition to future planned investments to fulfill the *Master Plan* recommendations to coordinate with land use design guidelines.

An additional environmental sustainability component of the project is Louisville Metro's partnership with the Metropolitan Sewer District (MSD). In concert with streetscape renovations and proposed pedestrian improvements, MSD proposes to partner with Louisville Metro to incorporate green practices into the project for segments that are located within the MSD combined sewer system (generally north of I-264). These green components of the new streetscape would capture storm water prior to entry into the

combined sewer and provide means for infiltration treatment. Under the partnership, streetscape features added that capture storm water can be funded by MSD. Based on drainage modeling of the project, stormwater fee credit incentives for removal of impervious surfaces area are available to commercial properties adjacent to Dixie Highway that will be effected by repurposing the roadway. Incentive credits range between \$0.40/square foot to \$1.50/square foot of impervious captured.

6.1.5 Safety

Improvements for corridor users of all capacities including pedestrians of all ages, transit riders, and commuters.

In the *Dangerous by Design 2014* report by Transportation for America, the Louisville region was ranked 17th in the nation for “most dangerous large metro areas for pedestrians.” Louisville Metro also has the dubious distinction of being identified as a Pedestrian Safety Focus City by FHWA’s safety office. Each year, Jefferson County averages 17 pedestrian fatalities, with pedestrian fatalities accounting for 20% of all roadway fatalities. From 2011-2013, there have been nine (9) pedestrian fatalities on Dixie Highway alone. This project will substantially improve safety for the corridor, not only for pedestrians, but for motorists as well. The total annual value of injury reduction is estimated at \$7M for the corridor. Implementing access management will improve the safety of vehicles and pedestrians along the corridor, in addition to repurposing existing right-of-way to provide new sidewalk for gaps in the network to provide safe connectivity within this high transit use corridor.

6.2 Secondary Selection Criteria

6.2.1 Innovation

TIGER funding for the Transforming Dixie Highway project will allow Louisville Metro to leverage stakeholder consensus, an existing implementation plan, and available funds to develop a complete corridor with multiple innovative infrastructure investments. The proposal includes incorporating corridor-wide Intelligent Transportation System (ITS) to connect to Louisville Metro’s central Advanced Traffic Management System (ATMS), BRT infrastructure, full accessibility for pedestrians and access management along the corridor.

Implementation of the defined elements along the first priority segments identified in the Transforming Dixie Highway proposal will provide Louisville Metro the accelerated resources to upgrade Dixie Highway into a multi-modal urban corridor. Key scope items that will integrate best engineering design principles and technology include:

- Installation of a scalable, hard-wired fiber optic communications system to support current and future traffic operations needs; Intelligent Transportation Systems (ITS) integrated with the existing Louisville Metro Advanced Traffic Management System (ATMS).
- Access management through the use of a raised median along 2.2 miles of Dixie Highway between Greenwood Road and Rockford Lane, as well as driveway consolidation for segments without sidewalk.
- Integrating a pedestrian facility network and an upgraded communication system that support ITS and real-time traffic operations management. This will allow TARC to upgrade to BRT service along its best performing route, Route 18, by consolidating bus stops, introducing limited stop overlay service, and deploying transit signal priority treatments at signals to improve transit schedule reliability.

ITS improvements, such as arterial DMS, along Dixie Highway would provide very useful tools in enhancing the dissemination of information related to day to day congestion management, incident management, detour routing, and special event management. Additionally, strategically placed Closed Circuit Televisions (CCTVs) will further enhance operations and responsiveness by gaining additional surveillance of critical intersections and stretches along the corridor. These devices will also be linked to the regional incident management system (TRIMARC) and the Louisville Metro Emergency Management Center (MetroSafe) and will supplement the existing connectivity with the ATMS.

The implementation of these innovative countermeasures has been proven nationwide to improve conditions for all users and will serve Louisville Metro and Kentucky Transportation Cabinet in providing best practice examples within the Louisville region.

6.2.2 Partnership

The Project has integrated various disciplines, including traffic engineering, transportation planning, land use planning, economic development, and public health. The needs of the corridor were defined through a comprehensive planning approach with interdisciplinary participation of stakeholders during the Master Plan. The Master

Plan identified the opportunities for transportation investments to support the safety, mobility, and economic development initiatives of the community, enhancing community cohesion, and promoting community health by providing safe infrastructure for active transportation of all existing users in the corridor.

6.2.2.1 Jurisdictional and Stakeholder Collaboration

The Transforming Dixie Highway project proposal is the result of many years of engagement by individuals, organizations, and civic leadership seeking to make a change in southwest Louisville, particularly on the Dixie Highway Corridor. *The Dixie Highway Corridor Master Plan*, completed in 2013, generated substantial support from the community and Louisville Metro leadership, including all the Louisville Metro Council members along the project corridor. Their involvement and support in that planning process translated into generating support from local and State-level leadership in the Kentucky House of Representatives who successfully secured State Road funds to address transportation issues on a segment of Dixie Highway. This application for TIGER reflects full partnership support. Louisville Metro intends to leverage the locally committed funds for a greater match and more expedient implementation period. TARC's transit service operations, facility improvements and maintenance have been central to all elements of this proposal and previous planning efforts. Regular meetings were held throughout the planning process that began in mid-2010 with the *Master Plan*. Public involvement has continued with preliminary design of the pilot segment from Rockford Lane to Crums Lane. The *Master Plan* advisory and technical teams are comprised of representatives such as:

- The Southwest Dream Team, a pre-existing organization of local business owners, residents and interested members of the public;
- Church leaders, business owners, neighborhood leaders, sub-area business associations, school leaders;
- The City of Shively, a small city located within the corridor;
- TARC, Louisville's transit system operator; and
- KIPDA, the regional MPO.

6.2.2.2 Disciplinary Integration

The Project Parties will continue to work closely with the community stakeholders engaged in the previous work, including KIPDA and the various community organizations, government agencies, municipalities, legislators, businesses, and educational and health care institutions to accomplish the objectives outlined in this

proposal. The project delivery team is a partnership between Louisville Metro's Departments of Develop Louisville and Public Works along with professionals from KYTC and TARC. The complexity of issues and anticipated benefits demands a high degree of interdisciplinary coordination between planners, engineers, and economic development officers. Combined State and local match of 41.5% indicate a strong degree of commitment.

7.0 PROJECT READINESS

The Transforming Dixie Highway project can obligate any awarded TIGER funds by June 2017, and would be able to complete construction by the end of 2018, well before the statutory requirement. There are no significant concerns regarding the technical or financial feasibility of the Transforming Dixie Highway project.

7.1 Technical Feasibility

Since each phase and component of the Transforming Dixie Highway TIGER project has been identified in previous plans by each of the partnering parties as a critical need, and each has received significant support. Detailed planning has already been undertaken for the first two components, the ITS upgrades and Complete Streets and Safety/Access Management Improvements.

None of the project elements present any significant technical risks or challenges and all are within the capacity of all involved engineering and construction resources.

The project presents no implementation challenges related to right-of-way acquisition, permitting, approvals, or agency coordination.

Previous Federally funded design and construction projects have been developed following the standard Local Public Agency (LPA) project development process as determined by the Kentucky Transportation Cabinet. This project will have to follow the same process. The Transforming Dixie Highway project will follow LPA requirements; maintenance of traffic operations will utilize the KYTC defined LPA project guidelines to ensure safe passage of all travelers during construction. Access to local businesses during construction will be coordinated between the managing agency and the property owners. All construction techniques will follow standard procedures of the industry and the final design will conform to federal, state, and local standards, as well as current ADA standards.

7.2 Financial Feasibility

The Commonwealth of Kentucky's State Legislature and the Kentucky Transportation Cabinet have identified the need to prioritize safety and operation performance of Dixie Highway and have therefore programed \$11.5 million to the corridor. Louisville Metro has committed another \$500,000.

The project will be undertaken in phases: the ITS implementation to be followed by the Complete Streets and Safety/Access Management improvements, with the BRT implementation at the end. The BRT service can be introduced in phases, or segments, if needed.

The implemented elements of the project are intended to provide operational and maintenance efficiencies to Louisville Metro Government Public Works through a Memoranda of Agreement from the Kentucky Transportation Cabinet.

Louisville Metro Government, the managing agency in this project, operates in a sound financial state despite a tough economy in recent years. Louisville Metro has maintained a stable credit rating and is prepared to take on the financial commitments ascribed to it in this application

7.3 Project Schedule

The phases involved in this project include: public involvement; NEPA documentation; preliminary design; final design and construction. Public involvement has already been initiated through the *Dixie Highway Corridor Master Plan* and preliminary design of the pilot segment from Rockford Lane to Crums Lane. All phases of the project will occur within the existing right-of-way, so it is anticipated a Categorical Exclusion Level 1 for the entire corridor to address NEPA requirements.

Public involvement for this project phase is minimal, so construction is anticipated to initiate in the last quarter of 2015 and be completed in 2018.

	2015				2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ITS / Signal System and Technology Upgrades					P	D	D		C	C	C	C	C	C	C	
Bus Rapid Transit				P	P	P	D	D		C	C	C	C	C		
Complete Streets & Safety/Access Mgmt.																
Crums to Rockford				P	P	P	D	D	D		C	C	C			
Rockford to Greenwood					P	P	P	D	D	D		C	C	C	C	

P Preliminary Design and Public Involvement
 D Final Design
 C Construction

7.4 Assessment of Project Risks and Mitigation Strategies

The risks involved with the Transforming Dixie Highway project are minimal and conventional for a project of this size and magnitude. Major risks associated with this project have been assessed, as per standard risk categories for highway improvement projects within the existing right-of-way, already under agency control, with no streams, wetlands, endangered species, or environmentally sensitive areas that will be impacted.

Right-of-Way: Acquisition of right-of-way is a potential risk but has been identified as very low because previous planning efforts for the corridor have constrained the project's scope within the existing right-of-way.

Procurement Delays: The size and scale of the work is well within the range handled on a routine basis by Louisville Metro Government, KYTC, and TARC and as such procurement is not considered unusual in any way for this project. Therefore, no procurement delays are anticipated.

Environmental Uncertainties: As parts of the project are within public right-of-way under agency control, no NEPA process will be required. All project details related to pedestrian infrastructure, access management, and overhead utility work within the right-of-way will not present any environmental uncertainties.

Local Public Agency (LPA) Project Development Process Delays: Any project within the Commonwealth of Kentucky receiving Federal transportation funding for locally-administered projects working with consultants must follow the guidelines outlined in the Kentucky Transportation Cabinet's (KYTC) LPA Project Guide when administering projects (or risk not being reimbursed or possibly having to return funds to USDOT). KYTC's Local Public Agency Project Development Checklist ("LPA-PDC") provides the necessary guidelines to navigate the detailed phases. Because KYTC is a partner in the Transforming Dixie Highway project and Louisville Metro Government has extensive experience with the LPA process, no anticipated delays are expected.

7.5 Environmental Reviews and Approvals

7.5.1 NEPA

All parts of the Transforming Dixie Highway project will be built within the existing right-of-way, already under agency control, with no streams, wetlands, endangered species, or environmentally sensitive areas that will be impacted. **Therefore, based on NEPA regulations, the project merits a Categorical Exclusion (CE) status and no delay associated with NEPA is anticipated.** Louisville Metro has had discussions with local offices of the US Department of Transportation regarding the Dixie Highway improvements.

The projects will not require legislative approvals, and the implementation will be completed by maintaining agencies, so no other approvals will be required.

7.5.2 State and Local Planning

The Kentucky Indiana Planning and Development Agency (KIPDA), Louisville's dedicated Metropolitan Planning Organization Government has committed to add all TIGER-funded projects into the Transportation Improvement Program (TIP) within one month upon notification that the projects have been awarded TIGER funds (for KIPDA certification, see supporting documents in <https://louisvilleky.gov/government/advanced-planning/transforming-dixie-highway>).

8.0 RESULTS OF BENEFIT COST ANALYSIS

The table below summarizes the main findings of the benefit-cost analysis. The period of analysis used in the estimation of the project's benefits and costs corresponds to 33 years, including three years of project development (design and construction) and 30 years of operation. Annual costs and benefits are estimated through 2048. As stated earlier, construction is expected to be completed in 2018. Benefits will accrue during the full operation of the project (30 years).

Considering all monetized benefits (user as well as non-user) and costs (capital as well as operating and maintenance costs), the estimated internal rate of return of the project is estimated at 17.6 percent. With a 7 percent discount rate, the project would result in a net present value of nearly \$30.5 million and a benefit-cost ratio of 2.1.

With a 3 percent real discount rate, the net present value of the project would increase to \$70.2 million, for a benefit-cost ratio of 3.0.

TABLE 4: Summary Results of the Benefit-Cost Analysis, Millions of 2014 Dollars

Project Evaluation Metric	7% Discount Rate	3% Discount Rate
Total Discounted Benefits	\$59.6	\$105.3
Total Discounted Costs	\$29.1	\$35.1
Net Present Value	\$30.5	\$70.2
Benefit-Cost Ratio	2.1	3.0
Internal Rate of Return (%)	17.6%	
Payback Period (years)	9	

9.0 FEDERAL WAGE DETERMINATION

The letter confirming that Louisville Metro Government will comply with the requirements of subchapter IV of chapter 31 of title 40, United States Code [Federal wage rate requirements] can be located at: <https://louisvilleky.gov/government/advanced-planning/transforming-dixie-highway>

10.0 ATTACHMENTS

Supporting documents for **the Transforming Dixie Highway Project** TIGER request are located at: <https://louisvilleky.gov/government/advanced-planning/transforming-dixie-highway>. These documents include:

- ◆ Benefit Cost Analysis Supplementary Documentation
- ◆ Letters of support
- ◆ Federal Wage Rate Certification Letter
- ◆ KIPDA Certification letter
- ◆ Dixie Highway Corridor Master Plan
- ◆ BRT Preliminary Operational Analysis
- ◆ TIGER – Supporting Documentation/Analysis
- ◆ Ridership & Mode Shift & Operating Costs
- ◆ Safety Analysis
- ◆ VMT&VHT Calculations